

CLAIMS:

(Amended)

1. (Amended) A shutter opening/closing apparatus comprising:

a follower member configured to be engaged, through an opening of a cartridge, with a recessed portion of a wheel for opening or closing a shutter of the cartridge; and

a cam mechanism for controlling a movement of the follower member so as to avoid contact of the follower member to a body of the cartridge at a time when the engagement between the follower member and the recessed portion is released.

2. (Amended) A shutter opening/closing apparatus comprising:

a follower member configured to be engaged, through an opening of a cartridge, with a recessed portion of a wheel for opening or closing a shutter of the cartridge; and

a cam mechanism for limiting a movement of the follower member at a time when the cartridge is loaded and disposed between the follower member and the cartridge at a position at which the follower member does not engage with the recessed portion of the wheel.

3. (Amended) The shutter opening/closing apparatus according to claim 1 or 2, further comprising urging means for urging the follower member in the direction of the recessed portion of the cartridge, the cam mechanism having an inclination, and the follower member being moved along the inclination in a direction apart from the recessed portion of the wheel at a time when the engagement between the follower member and the recessed portion of the wheel is released.

4. (Amended) The shutter opening/closing apparatus according to claim 1

wherein the follower member includes a shaft sliding along the cam mechanism and a protruded portion formed integrally with the shaft and configured to be engaged with the recessed portion of the wheel.

5. The shutter opening/closing apparatus according to claim 4, wherein the shaft is provided, at an outer peripheral portion thereof, with a rotating member to be rotatable.

6. The shutter opening/closing apparatus according to claim 4 or 5, wherein the shaft has a center positioned in a direction apart from the opening of the cartridge than a front end of the cam mechanism.

7. (Amended) The shutter opening/closing apparatus according to claim 1, wherein the cam mechanism is formed with guide grooves at portions near the opening of the cartridge so as to guide the follower member in a direction apart from the recessed portion at the time when the engagement between the follower member and the recessed portion is released.

8. An information reproducing apparatus comprising;
a shutter opening/closing apparatus according to any one of claims 1 to 7; and

reproducing means for reproducing an information of a recording medium accommodated in the cartridge.